

SUPPORTING STATEMENT
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Collection of High Resolution Spatial and Temporal Fishery Dependent Data to Support
Scientific Research
OMB Control No. 0648-xxxx

1. **Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method used. Provide data on the number of entities (e.g., establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample in tabular form.**
 - **The tabulation must also include expected response rates for the collection as a whole.**
 - **If the collection has been conducted before, provide the actual response rate achieved.**

The respondents are 39 commercial fish harvesters who have participated in past electronic data collection expansion projects conducted by the Northeast Fisheries Science Center (NEFSC) Cooperative Research Branch. Through these projects, the NEFSC collaboratively worked with regional partners to expand the use of the NEFSC’s Fisheries Logbook Data Recording Software (FLDRS), improve FLDRS use for subtrip reporting on fixed gear vessels, and test wireless temperature depth probes and automated dockside WIFI transmission. These projects supported near real-time bycatch avoidance in several high-volume fisheries as well as the collection of the unique data requirements of the surf clam and ocean quahog fisheries. Vessels were asked to record high resolution spatial and temporal data on as many of their commercial fishing trips as feasible. Response rate was calculated as a percentage of trips respondents recorded high resolution data on compared to total number of commercial trips conducted. Many of the harvesters that participated in these projects are interested in continuing to provide high resolution data even though the projects have ended. New harvesters who haven’t participated in past data collection project who are interested in collecting high resolution data to support fisheries science may also be respondents. There is no sample selection method. This high resolution collection effort will be open for any harvesters who wants to voluntarily collect and submit high quality self-reported fishing data using the NEFSC’s Fisheries Logbook Data Recording Software (FLDRS).

Table 1. Data collections with response rates

Collection	No. of Participants	Start Date	End Date	Response Rate
PSMFC	31	January 2014	December 2015	35.31%
eVTR expansion	20	October 2017	March 2019	74.09 %
HRST	39	TBD	TBD	~80 %

2. **Describe the procedures for the collection, including:**
 - **the statistical methodology for stratification and sample selection;**
 - **the estimation procedure;**

- **the degree of accuracy needed for the purpose described in the justification;**
- **any unusual problems requiring specialized sampling procedures; and**
- **any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

Respondents will not constitute a random sample and are not based on a statistical design. Instead, they will be self-selected respondents from past Cooperative research projects that are voluntarily choosing to obtain high quality self-reported catch data in fisheries that will help answer research questions of highest priority.

Harvester will be using a combination of their seasoned experience, expert opinion and direct measurements in collecting the data.

High resolution catch and effort data is quite limited and therefore any amount of voluntary submitted high resolution data will be beneficial to better understanding fisheries science, This voluntarily submitted high resolution data complements or helps refine estimates from required sources.

There will be no specialized sampling procedures and since the data collection is voluntary the data collection frequency will be determined independently by each respondent.

3. **Describe the methods used to maximize response rates and to deal with nonresponse.**
 - **The accuracy and reliability of the information collected must be shown to be adequate for the intended uses.**
 - **For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.**

The data can be used to help understand and answer short term fisheries research questions in addition to developing catch-per-unit-effort indices and estimate fishery footprints. Data quality will be monitored using routine data audits. The quality thresholds implemented in these audits meet or exceed scientific standards for the research the data is being used to support. If a respondent's data is not considered reliable or accurate through the audit routines the data will be flagged in the database and excluded from analysis. Staff will work with respondents to improve data quality. However, since data collection and submittal is voluntary there is no strict penalty for poor data. Additionally, individual analyst using the data will inspect the data prior to use and determine how to further identify outliers if necessary that works best with how they are analyzing the data. One way that outliers have been identified in self-reported fishery dependent data is by calculating the number of standard deviations above or below the mean of each value. Model based analyses can help to account for non-random sampling, and the comparison of results to those samples with a more statistical design helps us understand how representative the data set is. Much of this data is analogous to citizen science data where there is often not a defined sampling scheme. Figuring out how best to use the data is a focus of the research. Additionally, the data from this collection effort will be used with data from other sources including Cooperative Research Branch's Study Fleet Program fishery dependent data as well as fishery independent data.

4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.

The Study Fleet program operated by the Northeast Fisheries Science Center's Cooperative Research Branch has collected high-resolution data from industry participants in various fisheries for over fifteen years. Palmer *et al.* (2007) provides a thorough review of the pilot phases (2002 -2005) of the Study Fleet program, reporting on equipment performance as well as comparisons of the self-reported electronic logbook data to existing fishery dependent data collection programs including Northeast Fisheries Observer Program, Vessel Trip Reports and dealer weightout data. A majority of the analyses Palmer *et al.* (2007) conducted utilized a triangulation approach to assess the relative accuracy of the high resolution Study Fleet data compared to the other sources. To determine whether systematic reporting bias existed between data collection programs Palmer *et al.* (2007) used a technique examining the distributions of differences was used. Prior to testing for bias, Palmer *et al.* (2007) tested the assumption of normality for the calculated differences was by using a Shapiro-Wilk test. The vast majority of calculated differences violated normality assumptions ($p < 0.0001$) and thus Palmer *et al.* (2007) used the nonparametric Wilcoxon signed rank test (Zar 1999). The comparisons concluded that weight estimates included in Study Fleet trips were similar in magnitude and species composition to those collected by NEFOP. Palmer *et al.* (2007) also notes that the Study Fleet's haul-level data inherently offers increased accuracy (in terms of area fished and duration of effort) over VTRs which aggregate data at a subtrip level.

This information collection request will be an extension of the data we collect via Study Fleet. No further overarching testing will be conducted at this time. Individual researchers working with the data will perform tests or analysis they see fit.

The respondents have varying years of experience from 1-5 years in collecting high resolution data under contract and will be using the Fisheries Logbook Data Reporting Software (FLDRS) to collect the data, which has safe guards built into it to assure the data submitted is complete. FLDRS also has customizable user-configurable default settings and short-lists to make the software not only more accessible and ready to use each trip but also assures the quality of many components of the data. A series of audits are also executed at the completion of a trip prior to being submitted. Additional audits are executed during the data load process. A web based application called Vessel Electronic Logbook System (VERS) Web Portal displays the results from these audits. This secure website can be accessed by the captain(s) and owner(s) of each vessel with a valid user ID and password. Suspected errors caught during auditing are flagged with one of two types of error messages; fatal and informational warnings. *Fatal Errors* indicate that something is incorrect in the data and must be addressed in order to have the data moved to final tables used for research. *Informational Warnings* suggest that the data may be incorrect, but these warnings can be ignored if the data are correct. The captain(s)/owner(s) are asked to review all trip data through VERS and make any necessary edits.

5. **Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

NOAA Fisheries Northeast Fisheries Science Center staff (FTE and contractors) will scope and analyze the data in collaboration with industry partners. The Chief of Cooperative Research Branch, Anna Mercer (401)-782-3337, will be supervising and approving methods.